THE OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

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Defense Energy Program Policy Memorandum 86-3

MEMORANDUM FOR DESIGNATED ENERGY OFFICIALS OF THE OFFICE OF THE SECRETARY OF DEFENSE, MILITARY SERVICES, ORGANIZATION OF THE JOINT CHIEFS OF STAFF, AND DEFENSE AGENCIES

SUBJECT: Defense Energy Resource Management Program and Goals

Authorization Department of Defense Instruction 5126.47

PURPOSE: To define and implement Department of Defense Energy Resource Management Program and Goals

DISCUSSION: The Federal Energy Management goals established by Executive Order 12003 (E.O. 12003), July 20, 1977, have for the most part been achieved. There are still major improvements in mission support, readiness, and economy which can be achieved through continued dedication to energy management improvement in the Department of Defense (DoD). This Defense Energy Program Policy Memorandum (DEPPM) establishes the DoD energy resource management goals and provides guidance for the development of Service and Agency (Components) energy plans to implement these goals.

In keeping with Deputy Secretary of Defense William H. Taft IV letter of March 26, 1986, concerning Defense-wide application of the model installation management approach, the new energy goal philosophy is to allow the Components to create their own unique energy program and goals. With a minimum amount of coordination and policy guidance from the OSD level, the Components can optimize their energy conservation results by utilizing resources, emphasizing programs and implementing procedures that are best suited for each particular situation. The Components will be responsible for the success made toward the basic objective of effective, efficient energy by reporting their progress annually to OSD.

The new general DoD goals, which extend to FY 1995, reflect the experience gained from the first 10-year period of the energy resource management program. The new goals should be used by the Components as policy guidance when developing their individual implementation plans. Each Component has separate and distinct mission requirements which dictate how energy resource management

techniques can best be applied. Each Component is therefore expected to develop an energy plan and goals that fit its own individual requirements, constraints, opportunities, and organization.

The new goals allow each Component to maximize energy resource management effectiveness by concentrating on those areas that have the highest potential for success. Areas of program focus include: (1) increasing efficiency through resource substitution; (2) reducing energy use through plant modernization and operation and maintenance innovations; and (3) improving measurement methods, such as regression analysis of uncontrollable factors such as weather and changing workloads. In this manner the Components can develop and manage their energy resources in the most cost efficient and practical manner. Continued progress will not only save valuable O&M funds, but also increase energy security and improve mission capabilities.

Over the years, "Lead Service" responsibilities have been assigned with respect to the research and development of the various energy resources. This "Lead Service" concept plays an important support role in the Services' energy plans. The original Lead Service assignments were stated in DEPPM 81-10. In some instances, these responsibilities have been passed around between the Services according to the level of expertise and involvement a particular Service may have in that area. Accordingly, Enclosure 1 is a revised "Lead Service" listing updating these changes and formally assigning and explaining the responsibilities of those assignments.

POLICY: It is DoD policy to improve mission support capability and reduce energy costs, while maintaining or improving Defense personnel living and working environments, by reducing energy consumption, increasing efficiencies, and substituting alternate fuel sources where cost-effective and practical. To provide a guide in the implementation of this policy, DoD energy resource management goals are stated in Enclosure 2.

PROCEDURE: Each DoD Component is to develop a 10-year energy resources management plan designed to meet the DoD goals as stated in Enclosure 2. Six months will be provided to allow the Components to develop a realistic and accurate reporting system and to identify specific areas where measurable progress toward the DoD goals can be achieved.

Each plan should be designed to reflect the mission requirements and energy resource management potential and constraints of the individual Component. DoD Components will have the flexibility to not only report process and cold iron energy as defined in Enclosure 2, but will be able to develop the best method of measuring and reporting this consumption. The Components should, where possible, utilize regression analysis and other statistical techniques to account for uncontrollable environmental factors such as weather and changing workload. Depending on mission

requirements, funds availability, cost-effectiveness, and practicality, each Component must determine what level of success it can realistically achieve in individual areas of program focus. The energy resource management plans should also address the support that will be provided as a result of individual "Lead Service" responsibilities.

ACTION: Each Component is to develop a 10-year energy resources management plan. FY 1985 is to be used as the baseline for measuring the level of progress towards the stated goals. After six months from the date of this DEPPM, a copy of the energy resources management plans are to be submitted to this office. The plans should include the areas of energy conservation and conversion that are to be part of the individual Component plans, the anticipated level of achievement in each energy category, the procedure that will be used to measure and report the energy consumption and "Lead Service" responsibilities. On January 15 of each year, a progress report must be submitted to this office detailing the achievements made over the past year in energy resource management.

CANCELLATION: This DEPPM is effective until superseded by DoD Instruction now in preparation.

for Maurice N. Shriber
Deputy Assistant Secretary of Defense
(Logistics and Materiel Management)

Enclosures

Definitions

1. Buildings Energy: All energy used for comfort heating, cooling and lighting, but excluding industrial process and mobility substitution energy. Buildings maintained in "caretaker" or "pickled" condition throughout the year with only minimal security lighting should not be included in this index.

2. Industrial Process Energy: The facilities energy utilized in the direct production or rehabilitation of equipment or goods. Examples of process energy include the utilities energy used in the production and repair of munitions, propellants, aircraft, ships, tanks, vehicles, and their parts; and the energy used in the movement of supplies in automated warehouse facilities. Energy used for heating, ventilation, cooling, domestic water heating and lighting for facility protection, personnel comfort, general administration or housekeeping should not be included. Energy reported in this category should be metered separately but auditable engineering estimates analyzed and reconfirmed annually are acceptable. Sample metering and verification with portable metering is strongly recommended. All such energy usage should be identified to a measurable quantity of production.

3. Renewable Energy Sources: Sunlight, wind, geothermal, low head hydropower, ocean thermal and biomass.

4. Mobility Substitution Energy: The facilities energy which is used in direct substitution for aircraft, ship, tank, ground support equipment, and other vehicle mobility energy. Examples include cold iron ships support, aircraft, ship and tank simulator energy use, and central flight line aircraft power systems.

5. Mobility Energy: The energy consumed by aircraft, ships, tanks, and other vehicles in the accomplishment of their direct military mission.

6. Cold Iron: The facilities energy provided to ships when in port to allow the shutting down of shipboard heating and power systems for increased ship maintenance, energy efficiency and personnel relief.

ASSIGNMENT OF LEAD SERVICE RESPONSIBILITIES
FOR ENERGY CONSERVATION AND CONVERSION TECHNOLOGIES

Energy Technology	Application	Lead Service
Mobility Energy Conservation	Multifuel/high efficiency aircraft propulsion systems	Air Force
	Multifuel/high efficiency ship propulsion systems	Navy
	Multifuel engines other than fixed wing aircraft and ship propulsion	Army
	Aircraft structure/aero-dynamics	Air Force
	Ship structures/turbulence	Navy
	Electric and hybrid vehicles	Army
	Energy storage for mobile/ portable systems	Air Force
Mobility Fuel Conversion	Synthetic Fuels/aircraft	Air Force
	Synthetic fuels/ships	Navy
	Synthetic fuels/automotive	Army
	Gasohol	Army
	Fuel cells/mobile	Army
Fixed Facility Energy Conservation	Computer programs to determine building energy characteristics	Army
	Energy conserving structures and construction technology	Army
	Advanced heating and air conditioning	Army
	Energy storage and distri-bution systems for fixed facilities	Army
	Cogeneration and total energy systems	Navy

	Energy monitoring and control systems	Navy
	Lighting	Navy
Fixed Facility Energy Conversion	Advanced Coal Burning	Navy
	Coal-oil mixtures	Air Force
	Wood burning	Army
	Refuse derived fuel	Navy
	Solid and Industrial Waste	Air Force
	Fuel cells greater than 5 kilowatts	Air Force
	Fuel cells 5 kilowatts or smaller	Army
	Stirling engines	Army
	Advanced gas turbines	Air Force
	Solar heating and cooling	Army
	Photovoltaics	Navy
	Solar Ponds	Army
	Wind energy conversion systems	Navy
	Geothermal energy	Navy
	Lowhead hydropower	Army
	Nuclear power systems for land based applications	Air Force

Responsibilities of Lead Service

The responsibilities of the lead Military Services are to:

- Establish coordination mechanisms
- Develop coordinated DoD-wide program plans, objectives, and implementation responsibilities
- Encourage, through the Defense Energy Policy Council, emphasis on most important areas
- Promote efficient use of DoD resources
- Sponsor the development of specifications, standards, handbooks, or other mechanisms to promote the beneficial use of energy technologies
- Provide for technology transfer, to include the exchange of information

PROCEDURES: To meet these responsibilities, the lead Military Services are to:

- Establish or use existing inter-Service groups to coordinate activities and develop draft plans, policies, specifications, and standards
- Prepare and provide to the Defense Energy Policy Council and energy program plan which describes the DoD-wide progress and plans for the energy technology. DoD-wide resources will be shown and identified as to Military Service or Defense Agency responsibility and budget allocations

The lead Military Services are responsible to report progress as follows:

- DoD-wide plans and progress are to be provided to the Defense Energy Policy Council on the same schedule as the Military Services' energy program plan.
- Each Military Service will report its program efforts within its budget and energy program plan.
- Additional status reports will be provided as mutually agreed upon and as required.
- Policy matters which require resolution should be reported to the Defense Energy Policy Council.

Other Military Services will provide support to, and coordinate with, the lead Military Service.

DoD Energy Resources Management Program Goals

FACILITY GOALS

	Fiscal Year 1995
o Existing Buildings	
Army	Reduce BTU/ft^2 usage 8% compared with FY 1985
Navy	Reduce BTU/ft^2 usage 12% compared with FY 1985
Air Force	Reduce BTU/ft^2 usage 10% compared with FY 1985
Agencies	Reduce BTU/ft^2 usage 10% compared with FY 1985
o Process	Reduce process energy intensity BTU/productivity indicator 10% compared with 1985
o New Buildings	Reduce BTU/ft^2 design usage 10% compared with FY 1985

NOTES:

1. Only projects that are life cycle cost-effective, practical and in support of effective defense mission accomplishment are to be implemented in pursuit of these goals. It is not the intent of this program to require the Services and Agencies to pursue goals that do not provide economic payback or that adversely impact mission operations or personnel.

2. FY 1985 is the new data baseline.

3. The "site" factor, 3413 BTU/KWH, is to be used for computing purchased electrical consumption.

4. Provide analysis of rationale for "productivity indicator" if process energy is recorded separately.

5. Provide analysis of rationale if regression analysis techniques are used to compute current facility energy consumption.

6. Add separate category for Mobility Substitution Energy if applicable.

ENCLOSURE 2

ENERGY CONVERSION GOALS

The DoD target goal is to achieve an increase in energy conversion of 5 percent by FY 1995 compared with FY 1985.

NOTES:

1. Energy conversion means replacing current fuel type use with any form of alternate energy sources: renewables as well as solid fuels (e.g., coal, refuse derived fuel, coal/water or coal/oil mixtures.

2. The Components are to implement this goal only to the level that it is cost-effective.

3. Multiple fuel design must be used wherever possible.

MOBILITY GOALS

The DoD target goal is to achieve an increase of 5 percent in efficiency by FY 1995 compared to FY 1985.

NOTES:

1. Provide analysis of rationale for the consumption efficiency unit of measure.

2. Administrative vehicle energy consumption is included in this category.

3. The Components are to implement this goal only to the level that it is cost-effective.